



# Advancement of Optical Methods in Experimental Mechanics, Volume 3 [ Conference Proceedings of the Society for Experimental Mechanics Series /

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Monografía

This critical collection examines a range of optical methods ranging from traditional photoelasticity and interferometry to more recent DIC and DVC techniques, as presented in early findings and case studies from the Proceedings of the 2013 Annual Conference on Experimental and Applied Mechanics. The collection includes papers in the following general technical research areas: {u2022} Optical metrology and displacement measurements at different scales {u2022} Digital holography and experimental mechanics {u2022} Optical measurement systems using polarized light {u2022} Surface topology {u2022} Digital image correlation {u2022} Optical methods for MEMS and NEMS {u2022} Three-dimensional imaging and volumetric correlation {u2022} Imaging methods for thermomechanics applications {u2022} 3D volumetric flow measurement {u2022} Applied photoelasticity {u2022} Optical residual stress measurement techniques {u2022} Advances in imaging technologies Advancement of Optical Methods in Experimental Mechanics: Proceedings of the 2013 Annual Conference on Experimental and Applied Mechanics is the third volume of eight from the Conference

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**Contenido:** From the Contents: Super-resolution in Ultrasonic NDE -- Relative Two-dimensional Nanoparticle and Collagen Concentration Measurements Using Scanned Laser Pico-projection -- High-speed Shape Measurement With 4 kHz Using Linear LED Device -- Deconvolving Strain Maps Obtained With the Grid Method -- Advanced Test Simulator to Reproduce Experiments at Small and Large Deformations -- The Eigenfunction Virtual Fields Method -- Keynote: The Kinematics and Dynamics of 3-D Displacement Fields (40-min.) -- Shape Measurement Using a New 3D-DIC Algorithm That Preserves Sharp Edges -- Three-dimensional Underwater Measuring by Structured Light Projection -- Implementation and Evaluation of Single Frame Recording Techniques for Holographic Measurements of the Tympanic Membrane in-vivo -- A Mechano-regulation Model to Optimize Design of Minimally Invasive Percutaneous Fixation Devices for Treatment of Fractured Vertebrae

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